

REMARKS

Claims 1 - 8 are pending in the Application. Claims 1 and 5- 8 are withdrawn from consideration but subject to rejoinder. Claims 2-4 are rejected.

Rejection under 35 USC §112, second paragraph

Claims 2-4 are rejected under 35 USC §112, second paragraph in that the term "comprising" requires clarification.

In the response dated December 6, 2006, Applicants intended to amend claim 2 to delete the term "comprising" but did not include the appropriate designation in the listing of the claims. The appropriate amendment is included in this response. Applicants apologize for any inconvenience this may have caused the Examiner.

Double Patenting

Claims 2-4 are rejected on the ground of obviousness-type double patenting as being unpatentable over claims 1 and 2 of US 7,041,625 ("625") and claims 7-10 of US 6,770,600 ("600") in view of Morrison & Boyd, Chapter 6, pp 177-188 ("Morrison & Boyd").

The cited patents, '625 and '600, each disclose the use of cyclopropene compounds to inhibit the ethylene response in plants. '600 discloses a system for the delivery of such cyclopropene compounds. As such, the invention disclosed in '600 can easily be practiced in light of Applicants' invention. Applicants' claims would not prevent one from practicing the invention disclosed in '600. Thus, as far as '600 goes, there would be no unjustified or improper extension of the right to exclude should Applicants' claims be granted. Therefore, the purpose of this double patenting rejection does not apply as regards '600. On the other hand, '625 is more closely related because it involves specifically the use of certain cyclopropene compounds to inhibit the ethylene response in plants which would be produced by Applicants' method of now withdrawn claim 5. However, again, one could still practice the invention of '625 if Applicants' claims were granted. So again, there would be no unjustified or improper extension of the right to exclude should Applicants' claims be granted.

Applicants' invention provides a method to generate the compounds utilized in the inventions of '600 and '625, but would in no way prevent the use of such compounds.

Morrison & Boyd merely discloses general reactions of double bonds. Thus, Morrison & Boyd demonstrates the large variety of reactions that can be used to convert double bonds to saturated bonds. However, there is no teaching or suggestion in Morrison & Boyd that such a process can be used as a method to stabilize a double bond in a cyclopropene so that the cyclopropene can later be regenerated. Furthermore, the potential energy diagram in Fig 6.3 of Morrison & Boyd only discloses the potential energy relationship for hydrogenation of linear double bonds, not those found in highly strained cyclic compounds such as cyclopropenes.

Applicants' invention is compounds which can serve as cyclopropene precursor compounds. Nothing in Morrison & Boyd would lead one skilled in the art to take the cyclopropene compounds disclosed in '625 and '600 and convert them to their saturated cyclopropane analogs with the expectation that the cyclopropene compound would then be subsequently regenerated from the cyclopropane analog. This, in effect, would add two additional steps to utilize the inventions disclosed in '625 and '600. For these reasons, it would not have been obvious to one skilled in the art to perform such reactions. Therefore, Applicants respectfully request that the obviousness-type double patenting rejection be withdrawn.

Should the double patenting rejection be maintained, in order to advance prosecution of this Application, Applicants will timely file a terminal disclaimer in compliance with 37 CFR 1.32(c) or 1.321(d).

Rejection under 35 USC §103(a) - 1st Rejection

Claims 2-4 are rejected under 35 USC §103(a) as being unpatentable over Seyferth et al (US Patent 3,265,745) in that Seyferth discloses dihalocyclopropanes.

The disclosure of Seyferth would not motivate one skilled in the art to prepare Applicants' cyclopropane compounds. Contrary to the statement in the Office Action, Seyferth discloses *gem*-dihalocyclopropanes. Seyferth does indicate in col.1, lines 23-27 that the other positions on the three membered ring can be substituted. However, the cyclopropenes must be 1,1-dihalo substituted. That is, compounds in which both of the key halo substituents are on the same carbon. These are significantly different from the 1,2-substituted cyclopropanes of

Applicants. That is, compounds in which the key substituents are on adjacent carbons. There is no teaching or suggestion in Seyferth that would motivate one skilled in the art to prepare 1,2-disubstituted cyclopropanes. The motivation of Seyferth was to provide a novel route to 1,1-dihalocyclopropanes (see col. 1, lines 10-12). Seyferth's method always results in the formation of a *gem*-dihalo-substituted three membered ring compound because the method generates a dihalocarbene adduct which adds to a double bond (see col. 2, lines 10-12 and col 3, lines 23-24 and 35-37). Applicants' compounds, on the other hand, cannot include a *gem*-dihalo-substituted group.

Furthermore, there is no suggestion that such compounds are useful precursors for the production of cyclopropanes with ethylene inhibition activity. The *gem*-dihalosubstituted compounds of Seyferth are used for entirely different purposes (see col. 5, line 59 to col. 6, line 2) and, in fact, cannot be converted to the cyclopropanes of Applicants' Structures 1-IV using Applicants' processes (see withdrawn claim 5). As a result, one skilled in the art and familiar with Seyferth would not be motivated to prepare Applicants' compounds.

Rejection under 35 USC §103(a) - 2nd Rejection

Claims 2-4 are rejected under 35 USC 103(a) as being unpatentable over Baird et al. J. Chem. Soc. Perkin Trans 1, 1986, pp 1845-1853 ("Baird") in that Baird teaches addition of substituents to cyclopropanes to prepare cyclopropanes.

Baird teaches the preparation of 1-halocyclopropanes by treatment of 1,1,2-trihalocyclopropanes with methyllithium. The halogens are limited to chlorine and bromine. There is no disclosure, teaching, or suggestion that the halo can be iodo. All of Applicants' claimed compounds require at least one iodo substituent (as substituents labeled W1, W2, or both W1 and W2 in Applicants' claimed compounds). Furthermore, the compounds of Baird upon treatment with methyllithium lead to 1,2-dehydrohalogenation to the corresponding 1-halogenocyclopropene. None of Applicants' claimed compounds would yield 1-halogenocyclopropanes upon formation of the cyclopropene. Thus, the motivation of Baird, to form a 1-halogenocyclopropene, is significantly different from that of Applicants, which is to form the cyclopropanes disclosed in withdrawn claim 5.

In addition, the process of Baird requires the use of the strong agent methyllithium. Through the use of the iodo substituent, Applicants have demonstrated in their examples that far

weaker agents can be utilized to form the cyclopropene. The combination of both iodo substituents and weaker agents to form cyclopropenes shows the distinct advantage Applicants' iodo substituted compounds have over the compounds disclosed in Baird. This advantage would not have been obvious to one skilled in the art familiar with Baird.

With each of the above cited references, the motivation for preparation of the compounds disclosed in the references is different than Applicants' motivation. In each case, the compounds are different than Applicants' compounds and the use of those compounds is different than Applicants' use. One skilled in the art would not be motivated to produce Applicants' compounds in the absence of knowledge of Applicants' disclosure. It is this unique use of the compounds specifically disclosed by Applicants which is unexpected.

With this response, Applicants believe that the rejections have been overcome and the claims are in condition for allowance. Should the Examiner have any suggestions which may put the Application in better condition for allowance, Applicants' attorney is willing to discuss any such suggestions either by phone or at the U. S. Patent and Trademark Office.

Respectfully submitted,



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